

Working Title

A Hybrid Centralized and Distributed Time Slot
and Channel Hopping Scheme for 6TiSCH Wireless
Sensor Networks

By

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Main Objective

What is impact of a hybrid of a load-balanced centralized and distributed scheduling schemes on performance of 6TiSCH networks

Specific Objectives

Load-Balanced Objective Function for RPL to determine optimal routes

QoS Supervisor to monitor network Conditions and initiate switching between centralized and distributed scheduling

Minimal Idle-listening and Load-Balanced centralized Channel hopping and time slot scheduler

A hybrid of centralized and distributed scheduling schemes that outperforms both centralized and distributed scheduling schemes in 6TiSCH networks used in isolation.

Progress

- Finished experiments on simulating fairness and Dense network. To submit before end of July
- Starting Paper on Minimal idle listening centralized scheduling in TSCH WSN
 - Introduction
 - Literature review
 - Simulation (Border router/ sink acting as scheduling entity)
 - Switched from Q-learning algorithm to Constraint Satisfaction Problem (CSP)

Plans

- Finish algorithm for CSP (pseudo code)
- Embed algorithm in cooja simulation
- Add simulation experiments to paper
- Meet and Discuss with supervisors twice a week and send updates every Friday